

## Time Delay Relays

### Delay-on-Break

## TDB / TDBH / TDBL SERIES

### Relay Output, Delay-on-Break Time Delay Relay



\*8-pin models UL listed when used in combination with P1011-6 socket only.

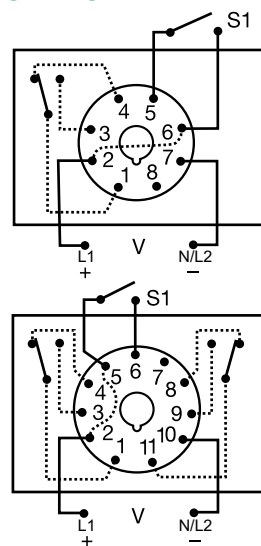


8-PIN



11-PIN

### Wiring Diagram



8-PIN OCTAL SPDT

S1 = Initiate Switch  
Relay contacts are isolated

11-PIN DPDT

### Description

The TDB Series combines accurate digital circuitry with isolated, 10A, DPDT or SPDT contacts in an 8-pin or 11-pin plug-in package. The TDB Series features DIP switch selectable time delays ranging from 0.1-10,230 seconds in three ranges. The TDB Series is the product of choice for custom control panel and OEM designers.

#### Operation (Delay-on-Break)

Input voltage must be applied to the input before and during timing. Upon closure of the initiate switch, the output relay is energized. The time delay begins when the initiate switch is opened (trailing edge triggered). The output remains energized during timing. At the end of the time delay, the output de-energizes. The output will energize if the initiate switch is closed when input voltage is applied.

**Reset:** Reclosing the initiate switch during timing resets the time delay. Loss of input voltage resets the time delay and output.

### Features & Benefits

| FEATURES                                      | BENEFITS                                                                                                          |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>3 time ranges available (0.1s to 2.8h)</b> | Makes it versatile for use in many applications                                                                   |
| <b>Microcontroller based</b>                  | Repeat Accuracy + / - 0.1% or 20ms, whichever is greater; Setting Accuracy + / - 2% or 50ms, whichever is greater |
| <b>LED indication (select models)</b>         | Provides visual indication of relay status                                                                        |
| <b>DIP switch adjustment</b>                  | Provides first time setting accuracy                                                                              |
| <b>Isolated output contacts</b>               | Allows control of loads for AC or DC voltages                                                                     |

### Ordering Information

| MODEL      | INPUT VOLTAGE | DELAY RANGE (SEC)            | LED | TYPE PLUG/OUTPUT FORM    |
|------------|---------------|------------------------------|-----|--------------------------|
| TDB120AL   | 120VAC        | 1-1023 in 1s increments      | X   | Octal (8-pin) plug, SPDT |
| TDB120ALD  | 120VAC        | 1-1023 in 1s increments      | X   | 11-pin plug, DPDT        |
| TDB12D     | 12VDC         | 1-1023 in 1s increments      |     | Octal (8-pin) plug, SPDT |
| TDB230AL   | 230VAC        | 1-1023 in 1s increments      | X   | Octal (8-pin) plug, SPDT |
| TDB24AL    | 24VAC         | 1-1023 in 1s increments      | X   | Octal (8-pin) plug, SPDT |
| TDB24DL    | 24VDC/ 28VDC  | 1-1023 in 1s increments      | X   | Octal (8-pin) plug, SPDT |
| TDBH120AL  | 120VAC        | 10-10230 in 10s increments   | X   | Octal (8-pin) plug, SPDT |
| TDBH120ALD | 120VAC        | 10-10230 in 10s increments   | X   | 11-pin plug, DPDT        |
| TDBL120AL  | 120VAC        | 0.1-102.3 in 0.1s increments | X   | Octal (8-pin) plug, SPDT |
| TDBL120ALD | 120VAC        | 0.1-102.3 in 0.1s increments | X   | 11-pin plug, DPDT        |
| TDBL24DL   | 24VDC/ 28VDC  | 0.1-102.3 in 0.1s increments | X   | Octal (8-pin) plug, SPDT |

If you don't find the part you need, call us for a custom product 800-843-8848

# Time Delay Relays

## Delay-on-Break

## TDB / TDBH / TDBL SERIES

### Accessories



#### BZ1 Front Panel Mount Kit

Provides an easy method of through-the-panel mounting of 8- or 11-pin plug-in timers, flashers, and other controls.



#### NDS-8 Octal 8-pin Socket

8-pin 35mm DIN rail or surface mount. Rated at 10A @ 300VAC. Surface mounted with two #6 (M 3.5 x 0.6) screws or snaps onto a 35 mm DIN rail. Uses PSC8 hold-down clips.



#### NDS-11 11-pin Socket

11-pin 35mm DIN rail or surface mount. Rated at 10A @ 300VAC. Surface mounted with two #6 (M 3.5 x 0.6) screws or snaps onto a 35 mm DIN rail. Uses PSC11 hold-down clips.



#### PSC8 or PSC11 Hold-down Clips

Securely mounts plug-in controls in any position. Provides protection against vibration. Use PSC8 with NDS-8 Octal Socket or PSC11 with NDS-11 Socket. Sold in pairs.



#### PSCRB8 Hold-down Brackets

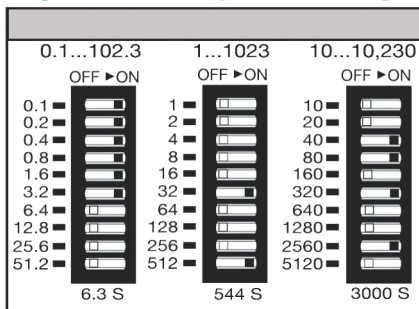
Designed for use with P1011-6 socket. Securely mounts 8-pin plug-in controls in any position, and provides protection against vibration. Sold in pairs.



#### P1011-6 Octal Socket for UL listing

8-pin surface mount socket with binder head screw terminals. Rated 10A @ 600VAC. Combination is UL Listed when used with TDB Series timers. Use PSCRB8 Hold-down brackets.

### Digi-Set Binary Switch Operation



\*\* For CE approved applications, power must be removed from the unit when a switch position is changed.

### Specifications

#### Time Delay

##### Type

##### Range\*\*

Digital integrated circuitry  
 0.1 - 102.3s in 0.1s increments  
 1 - 1023s in 1s increments  
 10 - 10,230s in 10s increments  
 $\pm 0.1\%$  or 20ms, whichever is greater  
 $\pm 2\%$  or 50ms, whichever is greater  
 $\leq 50\text{ms}$   
 $\leq 150\text{ms}$

#### Repeat Accuracy

#### Setting Accuracy

#### Reset Time

#### Recycle Time

#### Time Delay vs Temp.

#### & Voltage

#### Indicator

#### Initiate Time

#### Input

#### Voltage

#### Tolerance

#### 12VDC & 24VDC/AC

#### 110 to 230VAC/DC

#### AC Line Frequency

#### Power Consumption

#### Output

#### Type

#### Form

#### Rating

$\pm 5\%$   
 LED indicates relay is energized  
 $\leq 60\text{ms}$

12, 24/28, or 110VDC; 24, 120, or 230VAC

-15% - 20%

-20% - 10%

50/60 Hz

$\leq 3.25\text{W}$

Electromechanical relay

SPDT or DPDT

10A resistive @ 120/240VAC & 28VDC;

1/3 hp @ 120/240VAC

Mechanical -  $1 \times 10^7$ ; Electrical -  $1 \times 10^6$

#### Life

#### Protection

#### Isolation Voltage

#### Polarity

#### Mechanical

#### Mounting

#### Dimensions

$\geq 1500\text{V RMS}$  input to output

DC units reverse polarity protected

Plug-in socket

**H** 81.3 mm (3.2"); **W** 60.7 mm (2.4");

**D** 45.2 mm (1.8")

Octal 8-pin plug-in or 11-pin plug-in

#### Termination

#### Environmental

#### Operating/Storage

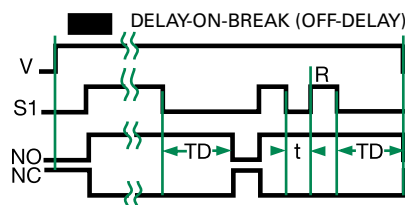
#### Temperature

#### Weight

-20° to 65°C / -30° to 85°C

$\approx 6\text{ oz (170 g)}$

### Function Diagram



V = Voltage

S1 = Initiate Switch

NO = Normally

Open Contact

NC = Normally

Closed Contact

TD = Time Delay

t = Incomplete

Time Delay

R = Reset

— = Undefined Time